

DEVELOPMENT OF AN ULTRA-SAFE RECHARGEABLE LITHIUM-ION BATTERY



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Unannounced <input type="checkbox"/>	
Justification _____	
By _____	
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Availability Codes	
Dist	Avail and / or Special
A-1	

Contract # N00014-94-C-0141
ARPA Order # 9332004arp01/13 APR 1994/313ES

R & D Status Report #2

Reporting Period: 16th November to 15th December, 1994

Submitted by:

The Electrofuel Manufacturing Company Inc.

DTIC QUALITY INSPECTED 3

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DISTRIBUTION STATEMENT A
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Feb 1, 1995

IN REPLY
REFER TO

DTIC-OCC

SUBJECT: Distribution Statements on Technical Documents

TO: Office of the Chief of Naval Research
800 north Quincy Street
Arlington, VA 22217-5000
Code 22

1. Reference: DoD Directive 5230.24, Distribution Statements on Technical Documents, 18 Mar 87.

2. The Defense Technical Information Center received the enclosed report (referenced below) which is not marked in accordance with the above reference.

R&D Status report
N00014-94-C-0141

3. We request the appropriate distribution statement be assigned and the report returned to DTIC within 5 working days.

4. Approved distribution statements are listed on the reverse of this letter. If you have any questions regarding these statements, call DTIC's Cataloging Branch, (703) 274-6837.

FOR THE ADMINISTRATOR:

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DISCLOSURE, 6 Nov 1984 (Indicate date of determination). CONTROLLING DOD OFFICE IS (Indicate
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The cited documents has been reviewed by competent authority and the following distribution statement is
hereby authorized.

A
(Statement)

OFFICE OF NAVAL RESEARCH
CORPORATE PROGRAMS DIVISION
ONR 333
800 NORTH QUINCY STREET
ARLINGTON, VA 22217-5660

(Controlling DoD Office Name)

(Reason)

DEBRA T. HUGHES
DEPUTY DIRECTOR
CORPORATE PROGRAMS OFFICE

(Controlling DoD Office Address,
City, State, Zip)

Debra T. Hughes
(Signature & Typed Name)

(Assigning Office)

15 SEP 1995

(Date Statement Assigned)

DEVELOPMENT OF AN ULTRA-SAFE RECHARGEABLE LITHIUM-ION BATTERY

R&D STATUS REPORT
1931-1002/0

ARPA Order No.: 9332004arp01/13APR1994/313ES

Program Code No.: ARPA-BAA93-32

Contractor: The Electrofuel Manufacturing Company Inc.

Contract No.: N00014-94-C-0141 Contract Amount: \$1271728.

Effective Date of Contract: August 15, 1994

Expiration Date of Contract: February 14, 1996

Principal Investigator: J.K. Jacobs

Telephone No.: (800) 388-2865

Short Title of Work: Lithium-ion Battery Development

Reporting Period: November 16, 1994 to December 15, 1994

Description of Progress:

The work continued in a number of areas, however particular focus was on two central issues:

1. Verification of bonding procedures for inter-electrode and intra-electrode bonding using a series of fluorinated vinyl copolymers as adhesives/ion-conductors. These are plasticized with organic carbonates typical of the electrolyte (eg. EC, DEC) to improve both flexibility and ion conductivity. Two procedures appear to be equally effective. These are:

a. Coating with water based latex slurry followed by air drying and hot pressing/laminating.

b. Solution casting, from ketone solvents, of a slurry or interlayer followed by hot air drying and "warm" laminating. Manufacturability considerations will dictate the method of choice.

2. Design of the flexible manufacturing line is further advanced than had been expected at this time, with fabrication of prototype web-handling equipment (coater, laminator, drier, and associated ancillaries) having started. Specifications of the motor/controller and gear reducer system for the web drive of the prototype battery production machine have also been completed. This step allows ordering of all major components of the flexible battery manufacturing line to proceed.

Change in Key Personnel: None

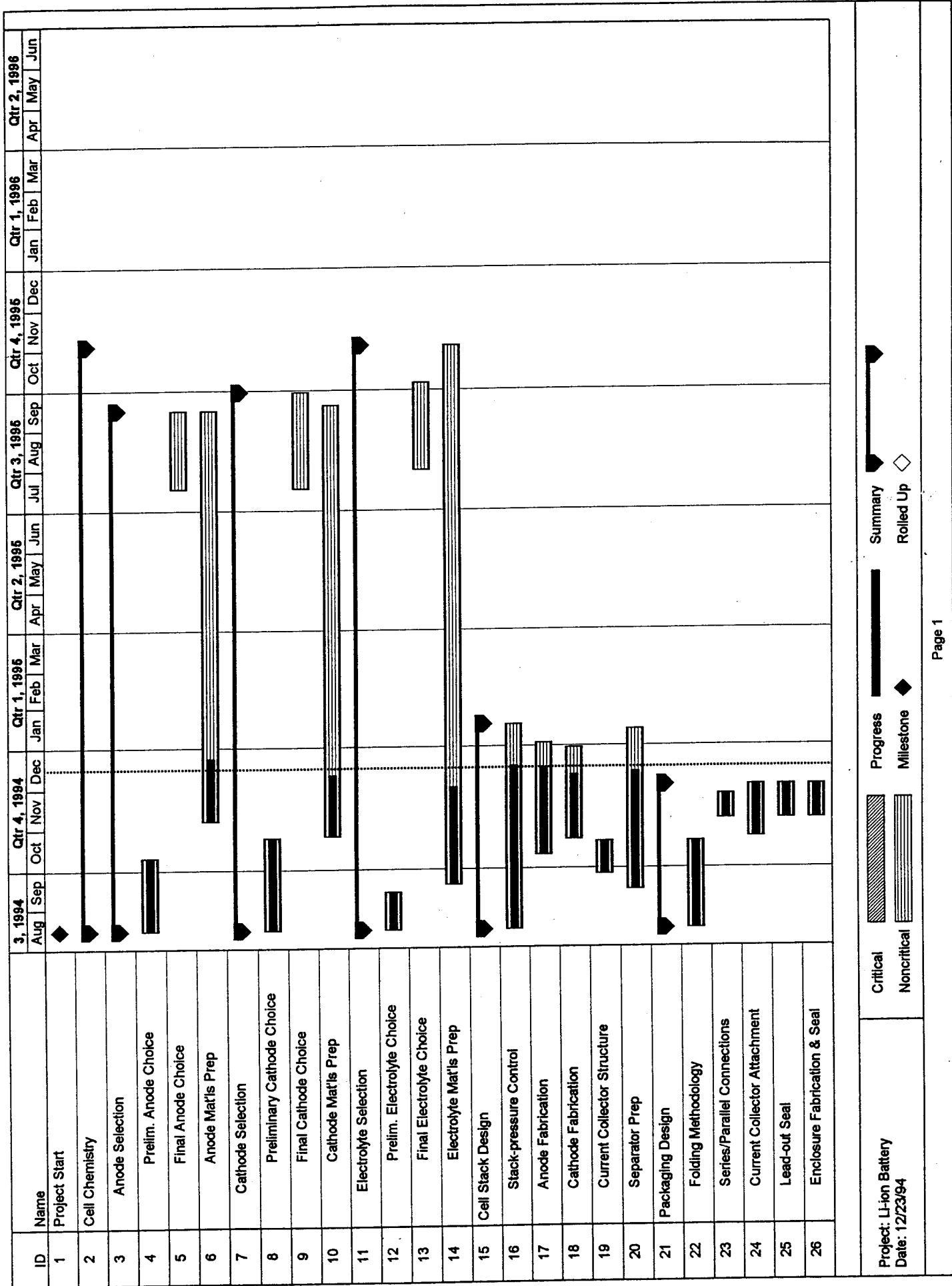
Summary of Substantive Information Derived from Special Events:
None:

Problems Encountered and/or Anticipated: None

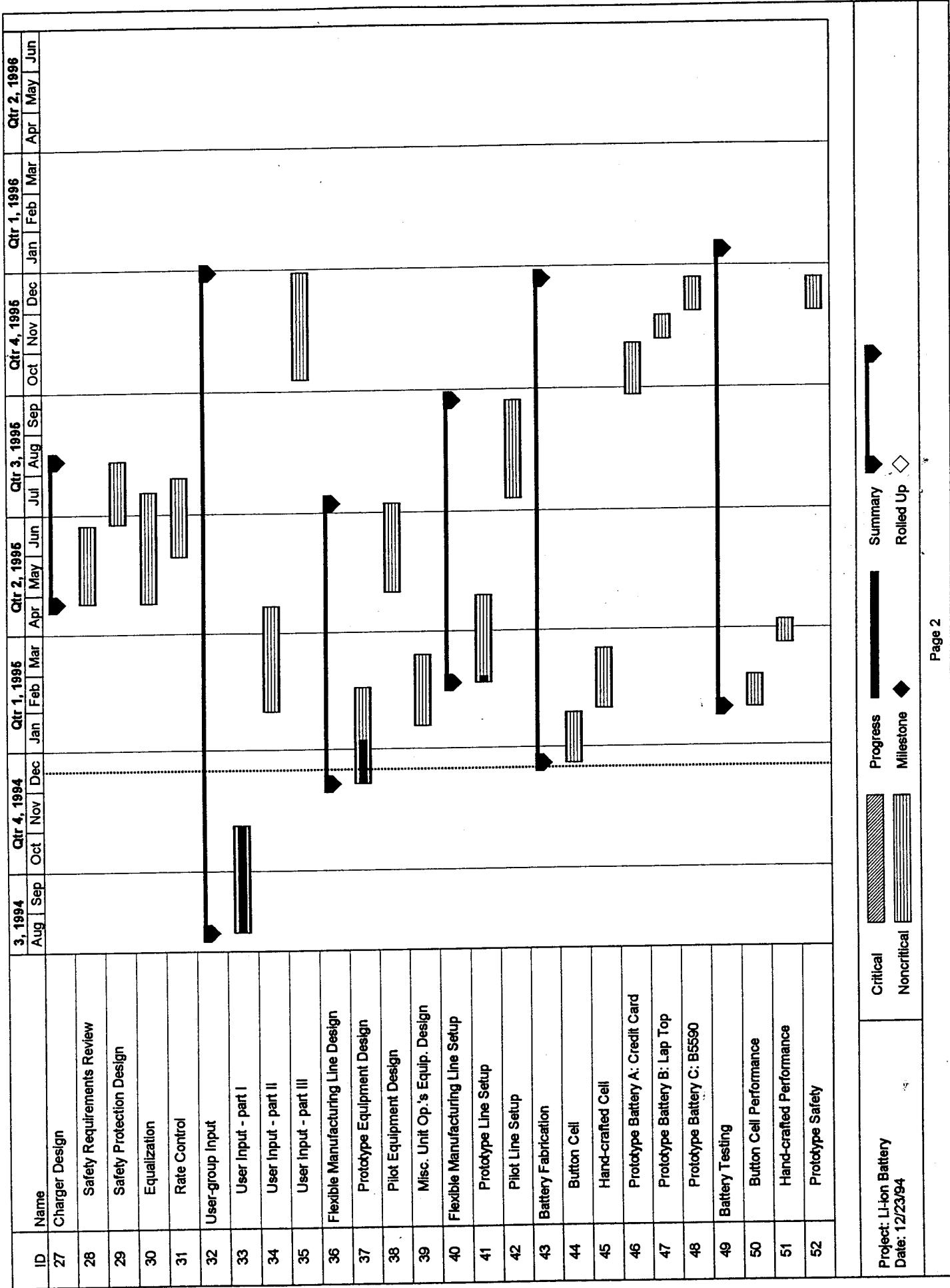
Action Required by the Government: None

Fiscal Status:

	Total Estimate of Program	US Govt Obligation	Electro fuel Contribution
(1) Amt. currently provided on contract:	\$1630421	\$1271728	\$358693
(2) Expenses & commitments to date:	\$ 170419	\$ 132927	\$ 37492
(3) Funds required to complete work:	\$1460002	\$1138801	\$321201



Project: Li-ion Battery
Date: 12/23/94



ID	Name	3, 1994			Qtr 4, 1994			Qtr 1, 1995			Qtr 2, 1995			Qtr 3, 1995			Qtr 4, 1995			Qtr 1, 1996			Qtr 2, 1996			
		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun		
53	Prototype Performance																									
54	Reporting																									
55	Progress																									
56	Button Cell Report																									
57	Prototype Battery Test Report																									
58	Final Report																									
59	Project Complete																									

Project: Li-Ion Battery Date: 12/23/94	Critical Noncritical	Progress Milestone	Summary Rolled Up
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